

<b>RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)</b>								DATE <b>February 2002</b>	
BUDGET ACTIVITY <b>07 - Operational System Development</b>				PE NUMBER AND TITLE <b>0305208F Distributed Common Ground Systems</b>					
COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	30,593	16,280	20,708	17,052	15,676	26,135	55,820	Continuing	TBD
4821 Distributed Common Ground System Interoperability	1,579	0	0	0	0	0	0	Continuing	TBD
4826 Common Imagery Ground / Surface Systems	29,014	16,280	20,708	17,052	15,676	26,135	55,820	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0

In FY03, AF DCGS anticipates receiving \$18.8M from the Cost of War Transfer Account. These funds are not included in the FY03 Air Force baseline. Funding will be used for development of increased/improved Geospatial Services and Information (\$3.8M), and dissemination (\$15M) capabilities.

(U) **A. Mission Description**  
The Distributed Common Ground System (DCGS) Program is a cooperative effort between the services and agencies to provide systems capable of receiving, processing, exploiting, and disseminating data from airborne and national reconnaissance platforms, and commercial sources. The DCGS program is developing a family of systems capable of supporting all levels of conflict, interoperable (using the Common Data Link) with reconnaissance platforms and sensors, and integrated into the Joint Command, Control, Communication, Computer and Intelligence (C4I) environment. The program integrates architectures and standards from Common Imagery Ground/Surface Systems (CIGSS) for Imagery Intelligence (IMINT); Joint Interoperable Operator Network (JION) for Signal Intelligence (SIGINT); and Joint Airborne Measurement and Signature Intelligence (MASINT) Architecture (JAMA) for MASINT.

(U) **B. Budget Activity Justification**  
Program is in Budget Activity 7 because it provides for development of technologies and capabilities in support of operational system development.

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## RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE

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BUDGET ACTIVITY

PE NUMBER AND TITLE

07 - Operational System Development

0305208F Distributed Common Ground Systems

(U) C. Program Change Summary (\$ in Thousands)

	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>
(U) Previous President's Budget	21,330	11,429	20,708	TBD
(U) Appropriated Value	30,593	16,429		
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions		-149		
b. Small Business Innovative Research				
c. Omnibus or Other Above Threshold Reprogram				
d. Below Threshold Reprogram				
e. Rescissions				
(U) Adjustments to Budget Years Since FY 2002 PBR				
(U) Current Budget Submit/FY 2003 PBR	30,593	16,280	20,708	TBD
(U) <u>Significant Program Changes:</u>				
- Congress added \$4.5M in FY01 for Eagle Vision				
- ISR Manager Congressional plus-up of \$5.0M FY01				
- USAF added \$21.5M in the FY01-05 budget for Common Imagery Processor				
- Adjustments in FY02: Eagle Vision funding transfers to PE 27277F (\$1.95M, Time Critical Targeting funding added (\$1.25M), Joint Services Imagery Processing System funding removed (\$3.0M), DCGS/Network Centric Collaborative Targeting modeling and exercise support activities/integration funding added (\$5.0M)				

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BUDGET ACTIVITY <b>07 - Operational System Development</b>				PE NUMBER AND TITLE <b>0305208F Distributed Common Ground Systems</b>				PROJECT <b>4821</b>	
COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4821      Distributed Common Ground System Interoperability	1,579	0	0	0	0	0	0	Continuing	TBD
<p>In FY03, AF DCGS anticipates receiving \$18.8M from the Cost of War Transfer Account. These funds are not included in the FY03 Air Force baseline. Funding will be used for development of increased/improved Geospatial Services and Information (\$3.8M), and dissemination (\$15M) capabilities.</p> <p>(U) <b><u>A. Mission Description</u></b>            The Distributed Common Ground System (DCGS) Program is a cooperative effort between the services and agencies to provide systems capable of receiving, processing, exploiting, and disseminating data from airborne and national reconnaissance platforms, and commercial sources. The DCGS program is developing a family of systems capable of supporting all levels of conflict, interoperable (using the Common Data Link) with reconnaissance platforms and sensors, and integrated into the Joint C4I environment. The interoperability program integrates architectures and standards from Common Imagery Ground/Surface Systems (CIGSS) for IMINT; Joint Interoperable Operator Network (JION) for SIGINT; and Joint Airborne MASINT Architecture (JAMA) for MASINT. Funds in FY02 and beyond have been moved to DCGS/CIGSS BPAC 674826.</p> <p>(U) <b><u>FY 2001 (\$ in Thousands)</u></b>            (U) \$1,079      Continued evolving DCGS architectures and standards for commonality and interoperability across intelligence disciplines.            (U) \$250      Continued engineering development of NATO interoperability standards.            (U) \$250      Managed DCGS Infrastructure IPT for ASD/C3I.            (U) \$1,579      Total</p> <p>(U) <b><u>FY 2002 (\$ in Thousands)</u></b>            (U) \$0      Funding moved to DCGS/CIGSS BPAC 674826            (U) \$0      Total</p> <p>(U) <b><u>FY 2003 (\$ in Thousands)</u></b>            (U) \$0      Funding moved to DCGS/CIGSS BPAC 674826            (U) \$0      Total</p> <p>(U) <b><u>B. Project Change Summary</u></b></p>									
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BUDGET ACTIVITY <b>07 - Operational System Development</b>					PE NUMBER AND TITLE <b>0305208F Distributed Common Ground Systems</b>					PROJECT <b>4821</b>		
(U) <b><u>C. Other Program Funding Summary (\$ in Thousands)</u></b>												
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>			
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>				
(U) Other APPN Procurement line is classified.												
(U) <b><u>D. Acquisition Strategy</u></b> DCGS interoperability program will use FFRDC, GSA contracts, and competitive processes where possible.												
(U) <b><u>E. Schedule Profile</u></b>												
	<u>FY 2001</u>			<u>FY 2002</u>			<u>FY 2003</u>					
	1	2	3	4	1	2	3	4	1	2	3	4
(U) DCGS Commonality and Interoperability standards												
(U) NATO Interoperability Standards												
(U) DCGS Infrastructure IPT												
*- Denotes Completed Event												
X-Denotes planned event												

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002			
BUDGET ACTIVITY					PE NUMBER AND TITLE				PROJECT	
07 - Operational System Development					0305208F Distributed Common Ground Systems				4821	
(U) <u>A. Project Cost Breakdown (\$ in Thousands)</u>										
					<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>	
(U) Program Management					400					
(U) System Engineering - Architectures and Interoperability					1,179					
(U) Total					1,579					
(U) <u>B. Budget Acquisition History and Planning Information (\$ in Thousands)</u>										
(U) <u>Performing Organizations:</u>										
<u>Contractor or Government</u>		<u>Contract Method/Type or Funding Vehicle</u>		<u>Award or Obligation Date</u>		<u>Performing Activity EAC</u>		<u>Project Office EAC</u>		<u>Total Prior to FY 2001</u>
								<u>Budget FY 2001</u>		<u>Budget FY 2002</u>
								<u>Budget FY 2003</u>		<u>Budget to Complete</u>
										<u>Total Program</u>
<u>Product Development Organizations</u>										
MITRE		SS,FFP		2Q99		N/A		N/A		800
SAIC		SS,IDIQ		2Q99		N/A		N/A		1,400
Veridian (formerly MRJ)		SS,FFP		2Q99		N/A		N/A		694
Other Non-Prime Gov't		Multiple		2Q99		N/A		N/A		135
Contracts										
<u>Support and Management Organizations</u>										
SAIC		SS,IDIQ		2Q99		N/A		N/A		400
200										
<u>Test and Evaluation Organizations</u>										
					<u>Total Prior to FY 2001</u>		<u>Budget FY 2001</u>		<u>Budget FY 2002</u>	
							<u>Budget FY 2003</u>		<u>Budget to Complete</u>	
									<u>Total Program</u>	
<u>Subtotals</u>										
Subtotal Product Development					3,029		1,379		4,408	
Subtotal Support and Management					400		200		600	
Subtotal Test and Evaluation										
Total Project					3,429		1,579		5,008	
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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE February 2002	
BUDGET ACTIVITY <b>07 - Operational System Development</b>				PE NUMBER AND TITLE <b>0305208F Distributed Common Ground Systems</b>				PROJECT <b>4826</b>	
COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4826      Common Imagery Ground / Surface Systems	29,014	16,280	20,708	17,052	15,676	26,135	55,820	Continuing	TBD
<p>(U) <b><u>A. Mission Description</u></b></p> <p>DCGS provides systems capable of tasking intelligence sensors, and receiving, processing, exploiting, and disseminating data from airborne and national reconnaissance platforms, as well as commercial sources. DCGS is a system of systems that does not need to be collocated but must be interconnected by a robust communications structure to provide data streams between intelligence collector, exploiters, producers, disseminators, and users. DCGS has four core locations: two CONUS based and two OCONUS. Other DCGS systems are distributed among Air Force operational units at numbered Air Force level, to support the Joint Task Force commander and the Air Operations Center (AOC). The CONUS-based systems are deployable and capable of reachback operations via satellite.</p> <p>DCGS provides significant support to Time Critical Targeting (TCT). This support will be enhanced with integration of software tools and closer integration to AOC tools. ISR Manager will provide the Joint Forces Air Component Commander (JFACC) the capability to dynamically visualize command and control ISR assets and information in the Air Operations Center (AOC), as well as quickly and effectively synchronize AF DCGS ISR operations, collection capabilities, and information with the AOC's combat objectives to improve the TCT process. ISR management requirements previously identified as a FY00 reprogramming request were funded by a Congressional plus-up in the FY01 DoD Supplemental and are included within the AOC (PE 27410F) and DCGS weapons systems for FY02. The Network Centric Collaborative Targeting (NCCT) Advanced Concept Technology Demonstration will provide the Joint Forces commander (JFC) and Component Commanders, in a joint or coalition environment, with a networked capability to rapidly synchronize multiple Intelligence, Surveillance, and Reconnaissance (ISR) sensors on Time Sensitive Targets (TSTs), creating engagement quality information for joint targeting subscribers.</p> <p>Eagle Vision is a deployable ground station for programming and collecting panchromatic, multispectral, and synthetic aperture radar broad-area imagery from commercial earth remote sensing satellites and processing/merging it with national imagery for mission planning, topographic analysis, and intelligence-gathering purposes. The AF has an operational Eagle Vision system at Ramstein AFB, GE. The Reno ANGB, NV National Eagle (commercial imagery post processing capability) is being upgraded with direct downlink capability along with direct downlink being procured for South Carolina ANG. Reno ANGB, NV also has a processing and exploitation system (networked with other DCGS sites) that supports the Theater Airborne Reconnaissance System (TARS) in addition to other DCGS missions. Eagle Vision transferred from PE 35208F to PE 27277F in FY02. DCGS Interoperability funding transferred to DCGS/CIGSS in FY02.</p> <p>A mobile CIGSS/DCGS testbed is used by multiple service and agency program offices to test interfaces with new sensors, applications, and other modifications, and</p>									
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BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
<b>07 - Operational System Development</b>	<b>0305208F Distributed Common Ground Systems</b>	<b>4826</b>
<p>(U) <b><u>A. Mission Description Continued</u></b> to support the integration and test of DCGS components prior to introduction into the operational environment.</p> <p>The Common Imagery Processor (CIP) is a major interoperability initiative to develop a common sensor processing element within CIGSS architecture. The function of the CIP is to accept airborne imagery data, process it into an exploitable image, and output the image to other elements within CIGSS. Baseline capability includes F/A-18 and U-2 sensors. Efforts are underway to augment the CIP baseline to process data from upgraded/ new sensors and to migrate CIP to a multi-intelligence processor.</p>		
(U) <b><u>FY 2001 (\$ in Thousands)</u></b>		
(U) \$2,400	Continued CIGSS/DCGS sustaining engineering implementing software upgrades and enhancements to maintain compatibility with changing national/tactical interfaces and increase interoperability with expanding ISR platform/sensor baseline.	
(U) \$1,500	Continued CIGSS/DCGS testbed development.	
(U) \$360	Continued ISR system engineering and technical support.	
(U) \$4,500	Integrated 1 Meter Satellite Upgrade for EV III & IV	
(U) \$1,900	Continued sustaining engineering for commercial satellite imagery ensuring operational usability. Continued integration of new/upgraded commercial imaging satellites.	
(U) \$13,354	Continued evolving CIP to keep pace with growing sensor baseline to include new and upgraded sensors. Implemented initial multi-int processing upgrades and investigated additional multi-int capabilities.	
(U) \$5,000	Develop ISR Manager initial capability.	
(U) \$29,014	Total	
(U) <b><u>FY 2002 (\$ in Thousands)</u></b>		
(U) \$1,609	Continue evolving DCGS architectures and standards for commonality and interoperability across intelligence disciplines to include NATO interoperability and management of DCGS Infrastructure Integrated Process Team (IPT) for ASD/C3I	
(U) \$250	Continue CIGSS/DCGS sustaining engineering to implement software upgrades and enhancements to maintain compatibility with changing national/tactical interfaces and to increase interoperability with expanding ISR platform/sensor baseline.	
(U) \$1,350	Continue CIGSS/DCGS testbed development.	
(U) \$1,317	Continue development of improved command and control of ISR platforms/sensors to enhance DCGS support to the commander, improve integration with the AOC, and increase Time Critical Targeting (TCT) effectiveness. Develop additional spirals of ISR Manager.	
(U) \$4,851	Develop and integrate NCCT interfaces and functionality within DCGS. Support ongoing modeling and exercise activities to assist processing	
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BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT		
<b>07 - Operational System Development</b>				<b>0305208F Distributed Common Ground Systems</b>			<b>4826</b>		
(U) <b><u>A. Mission Description Continued</u></b>									
(U) <b><u>FY 2002 (\$ in Thousands) Continued</u></b>									
and engagement of Time Critical Targets.									
(U) \$6,903 Continue evolving CIP and its associated architecture to keep pace with growing sensor baseline: new and upgraded sensors. Continue investigation of and implementation of advanced processing tools and multi-INT processing upgrades.									
(U) \$16,280 Total									
(U) <b><u>FY 2003 (\$ in Thousands)</u></b>									
(U) \$1,608 Continue evolving DCGS architectures and standards for commonality and interoperability across intelligence disciplines to include NATO interoperability and management of DCGS Infrastructure Integrated Process Team (IPT) for ASD/C3I									
(U) \$1,500 Continue CIGSS/DCGS testbed development.									
(U) \$4,929 Continue development of NCCT and improved command and control of ISR platforms/sensors to enhance DCGS support to the commander, improve integration with the AOC, and to increase Time Critical Targeting (TCT) effectiveness. Continue ISR Manager spiral development efforts.									
(U) \$12,671 Continue evolving CIP and its associated architecture to keep pace with growing sensor baseline: new and upgraded sensors. Continue investigation of and implementation of advanced processing tools and multi-INT processing upgrades.									
(U) \$20,708 Total									
(U) <b><u>B. Project Change Summary</u></b>									
(U) <b><u>C. Other Program Funding Summary (\$ in Thousands)</u></b>									
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) Other APPN									TBD
Procurement line is classified.									
(U) <b><u>D. Acquisition Strategy</u></b>									
DCGS uses a spiral development program to field and upgrade the common ground station architecture. Systems and technology will be contracted for under a competitive Request for Proposal (RFP) process where possible. ISR Manager also uses a spiral development approach.									
(U) <b><u>E. Schedule Profile</u></b>									
	<u>FY 2001</u>				<u>FY 2002</u>			<u>FY 2003</u>	
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(U) E. Schedule Profile Continued

	<u>FY 2001</u>				<u>FY 2002</u>				<u>FY 2003</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U) Integrate/Test changes in testbed		*				X				X		
(U) Assess/integrate national and tactical interface changes to DCGS	*											
(U) Integrate new sensors and sensor modifications into CIP	*				*				X			
(U) Update commercial imagery interface	*											
(U) DCGS technology/software upgrade		*										
(U) DCGS commonality and Interoperability standards					*							
(U) NATO Interoperability Standards					*				X			
(U) DCGS Infrastructure IPT					*	X	X	X	X	X	X	X
(U) Assess/integrate national and tactical interface changes to DCGS						X						
(U) Develop improved C2 of ISR platforms/sensors						X				X		

\*- Denotes Completed Event / X-Denotes planned event

## UNCLASSIFIED

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE February 2002			
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT	
07 - Operational System Development					0305208F Distributed Common Ground Systems					4826	
(U) <u>A. Project Cost Breakdown (\$ in Thousands)</u>											
					<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>		
(U)	Hardware/Software Development				13,515		9,394		10,887		
(U)	System Engineering				7,652		3,767		3,234		
(U)	System Integration				5,800		1,609		5,587		
(U)	Ancillary Hardware Development				1,047		510		0		
(U)	Program Management				1,000		1,000		1,000		
(U)	Total				29,014		16,280		20,708		
(U) <u>B. Budget Acquisition History and Planning Information (\$ in Thousands)</u>											
(U) <u>Performing Organizations:</u>											
<u>Contractor or</u>		<u>Contract</u>									
<u>Government</u>		<u>Method/Type</u>		<u>Award or</u>		<u>Performing</u>		<u>Project</u>			
<u>Performing</u>		<u>or Funding</u>		<u>Obligation</u>		<u>Activity</u>		<u>Office</u>		<u>Total Prior</u>	
<u>Activity</u>		<u>Vehicle</u>		<u>Date</u>		<u>EAC</u>		<u>EAC</u>		<u>to FY 2001</u>	
<u>Budget</u>		<u>Budget</u>		<u>Budget</u>		<u>Budget</u>		<u>Budget</u>		<u>Budget to</u>	
<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2003</u>		<u>Complete</u>		<u>Total</u>	
<u>Product Development Organizations</u>											
Raytheon, Garland, TX		Multiple		2Q99		N/A		N/A		1,318	
Northrop Grumman, Baltimore, MD		C, CPFF		2Q99		N/A		N/A		4,896	
Lockheed Martin, San Jose, CA		Multiple		2Q99		N/A		N/A		300	
TBD for DCGS Upgrades and Migration		TBD		TBD		N/A		N/A		0	
Matra, Velizy, FR		Multiple		1Q00		N/A		N/A		1,384	
Matra		SS, TBD		3Q00		N/A		N/A		11,886	
Other Non-Prime Gov't Contracts		TBD		TBD		N/A		N/A		1,122	
MITRE		SS,CPAF		2Q99		N/A		N/A		456	
SAIC		SS, IDIQ		2Q99		N/A		N/A		535	
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BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT
07 - Operational System Development					0305208F Distributed Common Ground Systems					4826
(U) <u>Performing Organizations Continued:</u>										
<u>Product Development Organizations</u>										
Veridian	C,CPAF	4Q01	N/A	N/A	0	0	250	1,908	Continuing	TBD
<u>Support and Management Organizations</u>										
Other Non-Prime Gov't	TBD	TBD	N/A	N/A	0	1,000	1,000	1,000	Continuing	TBD
<u>Contracts</u>										
<u>Test and Evaluation Organizations</u>										
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>					<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development					21,897	28,014	15,280	19,708	TBD	TBD
Subtotal Support and Management					0	1,000	1,000	1,000	TBD	TBD
Subtotal Test and Evaluation										
Total Project					21,897	29,014	16,280	20,708	TBD	TBD

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